

GE
Industrial Solutions

Seco Breakmaster V

Medium Voltage Load Interrupter Switch
with SecoVac Breaker



imagination at work

Improved safety can be easier than you think.

For facilities that are concerned with Arc Flash Safety Standards, the options may seem daunting, and the costs out of reach. The fuses used by load interrupter switches to protect the transformer in an over current situation are no longer adequate. Current Load Interrupter Switches (LIS) may provide poor fault current interrupting times, resulting in high arc-flash incident energy.

GE's Seco Breakmaster V solution provides reduced Arc Flash incident energy levels for customers on their existing MV equipment. This new solution includes a fixed-mount IEC SecoVac[®] VB2 Plus vacuum circuit breaker (VCB) in the fused compartment of LIS. Operating in three cycles, the fast-acting SecoVac VCB offers a new Arc Flash mitigating solution designed in response to Arc Flash Safety Standards.

The Seco Breakmaster V solution reduces Arc Flash levels to help enhance safety and provides increased flexibility:

- Reduced Arc Flash levels from the transformer down to the LV system
- Use as a main or feeder device which can also be part of a line-up that includes the fusible or unfusible Breakmaster LIS
- Relay options that provide upstream and/or downstream communications
- Maintains the same footprint as the fusible Breakmaster LIS
- The added reliability and quality of an IEC-rated, fast-acting, 3-cycle Vacuum Circuit Breaker with embedded pole technology
- Protection provided via the latest relay technology including bus and transformer differential options

Standards and Approvals

- American National Standards Institute (ANSI) Applicable sections of: ANSI/IEEE C37.20.3, C37.20.4, C37.22 - as existing and installed.
- IEC-62271-200 Standard
- National Electrical Code (NEC)

Note: The Breakmaster V includes low voltage control wiring from the SecoVac circuit breaker and current transformers to terminal blocks located in the LV Compartment. Before energization, contact GE Field Services or qualified personnel for wiring and programming of the factory-installed GE Multilin relay or any customer-specified or provided relays or components.



SecoVac Breaker for Quality Protection

SecoVac series VB2 Plus circuit breaker is a three-phase AC indoor breaker with 17.5kV rated voltage. It is used for control and protection of electrical equipment in industrial and mineral enterprises, power plant and substations. Durable and reliable, the SecoVac VB2 Plus breaker is especially suited for conditions that require frequent operation.

The SecoVac series MV embedded pole vacuum circuit breaker (VCB) uses Automatic Pressure Gelatin (APG) technology to embed the vacuum interrupter and connection terminals within epoxy resin. The embedded pole technology simplifies pole assembly and provides increased assembly accuracy and quality. Embedded pole technology also improves the environmental-resistant capability of the breaker. The primary circuit is completely embedded in epoxy resin, which minimizes the risk of insulation fault caused by operating environment conditions such as dust, humidity, vermin, polluted ambient and high altitudes.

SecoVac VB2 Plus Breaker Features

Breaker Mechanism

All the mechanical parts of the mechanism are integrated into opening and closing modules individually. The closing and opening modules are universal to the entire series of VB2 Plus embedded pole vacuum circuit breakers. This design offers reduced likelihood of mechanical readjustment, reducing your operation and maintenance costs.

Differential Relay Options

The Seco Breakmaster V includes all major components including the Load Interrupter Switch, IEC-rated SecoVac VB2 Plus vacuum circuit breaker, and the choice of a GE Multilin 350, F35, MIF II or other specified relay.



Front Panel: well-marked and easy-to-read operating controls and indicators include (1) TRIP button, (2) CLOSE button, (3) OPEN/CLOSE indicator, (4) CHARGE/DISCHARGE indicator, (5) OPERATIONS counter and (6) handle for manually charging the breaker.



GE Multilin 350



GE Multilin MIF II

Circuit Breaker Rating Tables¹

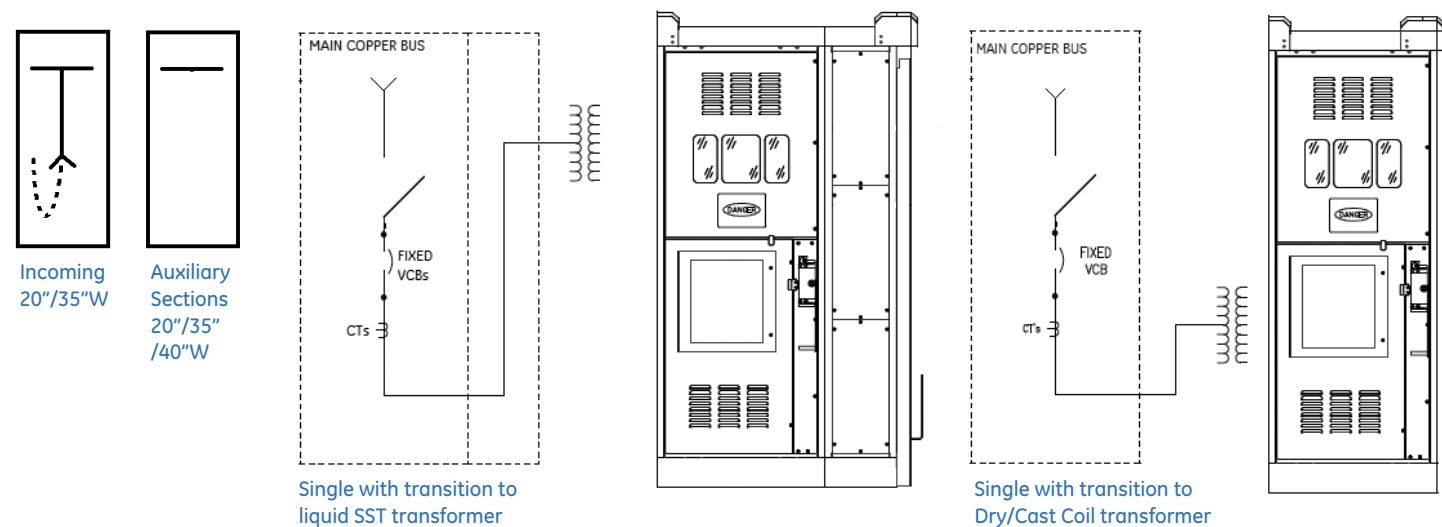
Rated Voltage kV	Up to 17.5	Up to 17.5
Frequency Hz	50 / 60	50 / 60
Rated Current A	1250	2000
Rated Power Frequency Withstand Voltage(1min) kA	38	38
Rated Lightning Impulse Withstand Voltage (Peak Values) kV	95	95
Rated Short Circuit Breaking Current kA	31.5	40
Rated Short Time Withstand Current (3s) kA	31.5	40
Rated Peak Withstand Current, kA	82	104
Rated Peak Making Current	82	104
Mechanical Endurance	10,000 operations	10,000 operations
Electrical Endurance	Class E2 per IEC	Class E2 per IEC
Rated Auxiliary Control Voltage V	110/125/130 Vdc 110/130/220/240 Vac	110/125/130 Vdc 110/130/220/240 Vac
Opening Time ms	20 to 50	35 to 70
Closing Time ms	30 to 70	40 to 50

Standard Configuration Features

	Single with transition to Dry/Cast Coil	Single with transition to Liquid SST
35" width (when indoor transition)	•	
38" width (when outdoor transition)	•	
40" width (when motor operator is included)	•	•
53" width (35" + 18" transition section) Indoor/outdoor		•
Standard/Reverse orientation available	•	•
60" depth standard, 50" depth available (limited components)	•	•
90"H indoor, 99"H outdoor	•	•
Front and rear access	•	•
Available section widths: 20" / 35" incoming	•	•
Terminal compartments; 20" / 35" / 40" auxiliary sections	•	•

¹Results expected when used in accordance with manufacturer's specifications and instructions. Individual results may vary.

Application Example



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